



November 27, 2002

QUALITY STANDARDS FOR NEW AND REPLACEMENT RESIDENTIAL COMMUNITIES INITIATIVE (RCI) FAMILY HOUSING

INTRODUCTION

The Military Housing Privatization Initiative (MHPI) legislation allows developers to build housing to local standards. The intent is to improve the housing for military families by providing quality housing that is built in attractive neighborhoods, avoiding the stereotypical appearance common in much of our existing inventory.

In those geographic areas where local standards do not meet the quality of life requirements of soldiers, the Community Development and Management Plan (CDMP) process allows a negotiated determination of those standards. The Army reserves the right to rely on private sector metrics from other parts of the country, previous projects, and the development community, as well as the Army Installation Status Report to ensure that soldiers receive quality housing and desirable communities under RCI.

One of the lessons learned during the first few projects was that some baselines needed to be established to provide a uniform level of quality throughout RCI. Thus, in November 2000, The Army established RCI construction standards policy via the HQDA Integrated Process Team (IPT) process. The IPT unanimously agreed to: (1) use local standards but take advantage of private-sector best practices, (2) establish minimum space standards equivalent to the previous Military Construction maximum space standards referenced in 10 USC section 2826, (3) allow the development partner to recommend additional standards for negotiation during CDMP development, (4) develop incentives to encourage the development partner to exceed minimum/local standards, and (5) submit additional standards to HQDA (SAIE-RCI) for review/approval.

Now that The Army has transitioned at several sites, concerns have been raised that there may be a need for additional standards for new and replacement construction. Therefore, the following standards are provided as reference points during CDMP preparation. These standards should be considered minimums and should be adapted to accommodate local requirements, health/safety regulations and statutes, building codes, environmental considerations, requirements related to accessibility and historic preservation, private sector innovations, and/or improvements to the industry standard. Above all, these standards ensure delivery of an equitable

housing product at all RCI sites and guide the CDMF team. Ultimately, the objective of these guidelines is to create housing that meets or exceeds competitive housing in the community. Where conditions exist that preclude implementation of a standard or a different standard is proposed, the Garrison Commander may request exception through the Director, Installation Management Activity (IMA) and Assistant Chief of Staff for Installation Management (ACSIM), to the HQDA RCI Program Office.

RCI STANDARDS

1. General. RCI projects will comply with the National Electric Code (NEC), National Fire Protection Association (NFPA) Code, Fire Administration Authorization Act, Uniform Federal Accessibility Standards (UFAS), Americans with Disabilities Act Accessibility Guidelines (ADAAG), Unified Facilities Criteria Design (General Building Requirements), Army's Sustainable design and Development Principles, Department of Defense and Army Anti-Terrorism/Force Protection standards, American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE), and Energy Star Certified (USEPA Energy Star Program) standards for residential applications. These codes/standards will be supplemented/modified by local codes as interpreted and local best practices.

2. Site and Grounds.

- a. Two off-street, paved parking spaces of no less than 9 feet in width and 20 feet in length will be provided for each dwelling unit, with at least one of these spaces enclosed by a garage or carport. Also, provide at least 1 on-street parking space per dwelling unit for guest parking.
- b. Sidewalks will be provided on at least one side of residential streets, made of concrete, and at least 4' wide.
- c. Curbs/street gutters should be at least 6 inches high barrier for non-mountable curb types. Valley gutter and sloped/roll-back curbs will be in conformance with local codes. Curbs shall be depressed at entrances to driveways, and curbs/street gutters will comply with local codes and UFAS.
- d. Residential style energy efficient street, park and playground lights with photoelectric sensors should be provided generally at each intersection and at reasonable intervals throughout the community.
- e. Buried cables should be provided in new housing areas. Service drops shall be underground, and systems shall conform to NEC and NFPA codes.
- f. All improved green space will utilize regionally native plantings, trees and natural/other grasses appropriate for the area and climate.
- g. Drought tolerant, desert or other appropriate "native" landscaping in lieu of sprinklers and/or irrigation systems are preferred, adverse effects to natural habitat will be minimized, and water-efficient practices will be established.
- h. Existing trees and natural vegetation will be retained, particularly in corridors.
- i. Construction in wetlands is not desired, and, if necessary, is subject to all State, local and federal requirements.

- j. Playgrounds, Tot Lots, and Parks – These should be accessible without crossing “major” streets. Any playground or tot lot located within 100 feet of a major street may be fenced if needed for safety. ADAAG and standard, consumer safety performance specifications for playground equipment for public use should be followed.
- k. Housing units per acre by site density are shown in the table below. This table provides guidelines, NOT minimums.

Grade	Low Density Units/Acre	Medium Density Units/Acre	High Density Units/Acre
SSG & Below	4-7	8-10	11-15
SFC – SGM	3-5	6-9	10-12
LT – CPT	3-5	6-9	10-12
MAJ – LTC	2.5-3	4-5	6-9
COL	2	3	4-6
BG & Above	1	2	3-4

- l. Amenities such as basketball courts, tennis courts, and jogging trails should be placed throughout the housing areas.
 - m. Fire hydrants shall be provided in accordance with the Installation Fire Department standards.
 - n. Paving, to include driveways, and other road construction materials shall comply with local codes or State Department of Transportation requirements and should be appropriate for proposed level of use, e.g., main thoroughfare, cul-de-sac, etc.
 - o. All new construction should include any required Force Protection and Anti-terrorism Construction standards for residential development as required in the latest Department of Defense and Army Military Construction guidance.
 - p. All new construction shall employ termite/other wood-destroying insect resistant design and materials subject to local codes and regulations.
 - q. Construction/major renovation projects shall comply with UFAS and ADAAG.
3. Building Exterior and Foundation.
- a. Replacement/new roof coverings should be fungus-resistant and carry a 20-25 years warranty as a minimum.
 - b. Rain gutters, downspouts and diverters with splash blocks shall be used to the greatest extent possible. Finished grading around buildings shall be graded to ensure water run-off away from the building.

- c. The primary entrance door shall be a minimum of 3' wide. All windowless front entrance doors shall have a viewer. A fire-rated door, a minimum of 3' wide, will be available between the garage and dwelling unit.
- d. A low-voltage doorbell will be provided at the front door with bells located on each floor.
- e. Exterior doors must be fire rated, and of high quality steel, fiberglass, or better construction.
- f. A coat closet shall be provided near the primary entrance, and a linen closet shall be provided near the bedrooms. A length of 2' for linen closets and 3' for guest closets should be considered minimums.
- g. Basements and/or crawl spaces shall have sufficient general ventilation to avoid high humidity and/or growth of molds.
- h. Exterior hose bibs shall be installed accessible to the front and rear of quarters. Hose bibs should include freeze protection in colder climates.
- i. One switched light fixture and one ground fault protected outlet shall be provided at the exterior of each dwelling entrance including the garage and patio entrances into the dwelling.
- j. Common walls in multi-family units shall be constructed so as to comply with local building and NFPA codes, and shall include sound attenuation construction techniques and materials.
- k. Windows should be double-pane insulated glass, and engineered to permit ease of cleaning from the interior of the house. Operable windows that have screens will allow screens to be removed from the inside.
- l. Siding will be of high quality materials/finishes commensurate with practices found in modern residential subdivisions in the area. Finishes will not require painting, and will be resistant to rot, insect infestation, and impact damage.
- m. Manufactured housing units are acceptable provided they meet all other quality standards as outlined in this document and are assembled in whole or in modular part on-site on full foundations or slabs, have never had an axle, and are approved by the installation command and HQDA (SAIE-RCI).
- n. A patio or deck (minimum 100 SF) will be provided for each residential unit, and apartment balconies will have a minimum 6-foot depth and a minimum of 60 SF.
- o. Each dwelling unit will provide a passive-ventilated bulk storage room. Wherever possible, this space will be accessible from the exterior, or through the garage.
- p. Visually screened exterior storage space should be provided on the side of the dwelling nearest the curbside pickup location. Capacity will be for at least two 40-gallon refuse containers (or one 95-gallon refuse cart). Townhouse garages may contain garbage containers if size/space permit.
- q. Privacy fencing, if provided, should be aesthetically pleasing, retain pets, and small children, and yet promote a sense of neighborhood.

4. Building Interior.

- a. Electrical:
 - ?? Electrical work will comply with the NEC.
 - ?? Electrical fixtures and systems will meet local code.

- ?? All homes will be pre-wired with a minimum installed capacity for three telephone lines to each dwelling unit and a minimum of one telephone jack in each room except bathrooms, utility and storage rooms, and garage. Pre-wired satellite and cable television outlets are to be provided in the living room, family room, and each bedroom with individual cable runs from each outlet to the satellite/cable company's junction box.
- ?? Capacity will be provided to allow for state-of-the-art internet service.
- ?? Individual electrical circuits shall be provided for smoke detectors, carbon monoxide detectors, clothes washer, clothes dryer, dishwasher, garbage disposal, furnace, air conditioning unit, and water heater as per code.
- ?? Provide switch-operated light fixtures in all habitable rooms and in halls, storage and utility rooms and above mirrors in baths.
- ?? Ceiling-mounted light fixture boxes in all living, family, dining and bedrooms shall be capable of supporting ceiling fans.
- ?? Primary electrical service and all associated distribution equipment and wiring shall be rated at 200 amps service for all dwelling units containing three or more bedrooms. Where natural gas service is available, electrical panels may be sized for actual loads (per code) and include additional spare capacity.
- ?? Hard-wired smoke detectors will be installed in compliance with local and national codes.
- ?? Carbon monoxide detectors will be provided in each dwelling (that includes fuel-burning appliances/systems) near the bedrooms and on their own separate circuits.
- b. HVAC:
 - ?? Climate controlled environment should be provided as appropriate for compliance with the selected energy standards and local climate zone.
 - ?? Conditioned airflow requirements as well as sizing of heating and cooling systems shall be computed using ASHRAE standards for residential applications. Heating and cooling will be distributed to all habitable rooms including bathrooms. Adjustable distribution terminal vents shall be provided to control airflow to the appropriate levels or areas as required.
 - ?? One return air vent shall be provided for each floor.
 - ?? Consider locating mechanical equipment in a closet directly accessible from the exterior of the building for ease of maintenance and to lessen the inconvenience to residents/workers.
- c. Attic access shall be provided in compliance with local building code.
- d. Plumbing:
 - ?? Water piping shall not be located in attics unless absolutely necessary.
 - ?? Water piping located in exterior walls or crawlspaces shall be insulated.
 - ?? For each residence, provide one master water shut-off valve, and provide hot/cold water shut-offs at each sink and toilet as required by local code.
 - ?? Provide gate valves, spaced throughout the neighborhoods to facilitate line maintenance, services and repairs.

?? Hot water heaters shall be a minimum of 40 gallons for a 3-bedroom or smaller home; 50-gallon size for 4-bedroom and larger homes.

5. Living, Family, and Dining Rooms.

- a. Design shall accommodate efficient circulation, functional arrangement and indoor/outdoor integration.
- b. Design should enhance individual and family group recreation, leisure and entertainment.
- c. Floor covering shall be high quality wood systems, sheet vinyl, ceramic tile, stone, or cut-pile carpet/pad stretched (not glued).
- d. Semi-gloss paint or natural finished wood will be used on doors and trim.

6. Bathrooms.

- a. Design considerations shall incorporate privacy.
- b. A minimum of two full bathrooms shall be provided for each dwelling unit. One bathroom will serve the master bedroom and the other will serve the other bedroom(s). A first floor half bath (minimum) should be available on the first floor of all two-story houses if no other bath is located on the first floor.
- c. Regardless of the presence of an operable window, all bathrooms/toilet areas should be ventilated mechanically through a low-noise exhaust fan that discharges into the atmosphere outside the structure.
- d. Master bathrooms will have double sinks.
- e. Floor coverings shall be sheet vinyl or matte finish (non-slip) hard tile.
- f. Provide mirrored medicine cabinet above each lavatory sink.
- g. Semi-gloss or similar finished paint will be used on all walls and ceilings.

7. Kitchen.

- a. Design considerations should incorporate an efficient work triangle.
- b. Provide refrigerator, dishwasher, range and garbage disposal.
- c. Provide built-in microwave or sufficient counter space to conveniently place a portable microwave along with small appliances.
- d. Cabinets/shelves shall be made of materials other than particleboard or pressboard. Preference shall be for solid surface countertops.
- e. Kitchen will have double compartment sinks, a minimum of 7-8" depth.
- f. General/countertop lighting shall meet local building codes.
- g. Range hood shall be provided with an integral light and two-speed, low-noise fan vented to the exterior of the building.
- h. GFCI equipped small appliance utility outlets shall be provided in accordance with code.
- i. Floor covering materials shall be high quality sheet vinyl, ceramic tile, or stone.

8. Bedrooms.

- a. Bedroom size and design shall accommodate efficient traffic flow and reasonable furnishings for the number of people anticipated for the room.
- b. Closet spaces, with a minimum depth of 24", will be provided in all bedrooms, and a walk-in closet should be provided for the master bedroom. Hall closets shall have a minimum depth of 36".
- c. Floor covering shall be high-grade cut-pile carpet/pad stretched (not glued).

9. Utility Systems.

- a. For each residence, exterior-reading electric/gas meters will be installed.
- b. Pad-mounted electric transformers will be provided.

10. Laundry Room/Closet.

- a. Water and electric connections will be installed for washers and dryers.
- b. A dryer shall vent to the home exterior in compliance with code.
- c. Adequate space should be planned for laundry baskets/supplies.

APPLICABILITY

These standards are applicable to all new or replacement family housing constructed under the Army's RCI. During CDMP negotiations, similar standards will be negotiated for renovated, revitalized and/or historic housing, recognizing that universal application may be limited by existing dwellings, cost factors/economics or other local conditions.

The RCI standards will be reviewed and updated annually. The HQDA RCI Program Office will: (1) request updates through ACSIM and HQ, IMA no later than 1 July each year, (2) staff and incorporate approved changes, and (3) issue revised standards no later than 30 September each year.

The quality standards outlined in this document are effective at all RCI installations effective 1 January 2003. All previously negotiated CDMPs should be reviewed for compliance and designs should be revised to reflect these standards prior to approval of the next annual operating/construction budget.

These standards will remain in effect until rescinded or revised by the RCI Program Office, Headquarters, Department of the Army.